

REMARKS

Claims 1-24 were previously pending in the subject application. The Examiner has rejected claims 1-24. Applicant has amended claims 1-3, 11, and 16 and has added new claims 47-50. Accordingly, Claims 1-24 and 47-50 are now pending in the subject application. No new matter has been added.

Claim Rejections under 35 U.S.C. §102(b) and 35 U.S.C. §103(a)

Claims 1-2 and 4-15 stand rejected under 35 U.S.C. §102(b) as being anticipated by PAYNE (U.S. Patent No. 5,532,039). Claim 3 stands rejected under 35 U.S.C. §103(a) as being unpatentable over PAYNE in view of OGAWA (U.S. Patent No. 5,900,320), and claims 16-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over PAYNE in view of ADORJAN (U.S. Patent No. 4,139,024). Applicant respectfully traverses the rejections with respect to claims 1-24. Nonetheless, in an effort to expedite the prosecution of the subject application, amendments have been entered to more fully distinguish over the prior art of record. In addition, various amendments have been entered for clarification or consistency.

Independent claim 1 recites a thermal barrier comprising a first barrier layer, a second barrier layer, and a base material positioned between the first barrier layer and the second barrier layer, wherein the base material comprises a plurality of regions and a barrier zone separating the regions of the base material. The thermal barrier also comprises a non-encapsulated phase change material impregnating one or more of the regions of the base material, wherein the barrier zone hinders migration of the phase change material in its liquid state within the base material, and wherein the first barrier layer is bonded to the second barrier layer to enclose the base material.

Independent claim 1 includes a number of limitations that are not shown or suggested by the prior art of record, taken either individually or in combination. For instance, Applicant's review of the prior art of record did not identify any teaching directed to a thermal barrier comprising: (1) "a base material positioned between the first barrier layer and the second barrier layer, wherein the base material comprises a plurality of regions and a barrier zone separating the regions of the base material;" and (2) "a non-encapsulated phase change material impregnating one or more of the regions of the base material." While PAYNE makes reference to thermal

barriers including a temperature stabilizing material deposited in cells defined by an interconnecting sheet or interconnecting walls, this reference does not show or suggest a thermal barrier comprising a base material that comprises “a plurality of regions and a barrier zone separating the regions of the base material.” And, PAYNE fails to show or suggest such a thermal barrier comprising “a non-encapsulated phase change material impregnating one or more of the regions of the base material.” The deficiencies of PAYNE are not remedied by the teachings of OGAWA and ADORJAN. For these reasons, the prior art of record can neither anticipate nor render obvious the invention defined by independent claim 1.

Claims 2-15 depend from independent claim 1 and are allowable for at least the reasons set forth above for independent claim 1. With respect to claim 2, the prior art of record fails to show or suggest that “the regions of the base material comprise a porous material.”

New claims 47-49 depend from independent claim 1 and are allowable for at least the reasons set forth above for independent claim 1. With respect to claim 48, the prior art of record fails to show or suggest that “the barrier zone is bonded to the regions of the base material.”

Independent 16 recites a thermal barrier comprising a first barrier layer, a second barrier layer, and a plurality of base materials positioned between the first barrier layer and the second barrier layer. The thermal barrier also comprises a non-encapsulated phase change material dispersed within one or more of the base materials, wherein interior portions of the first barrier layer are bonded to interior portions of the second barrier layer in a sealing pattern to enclose the base materials within respective compartments.

Independent claim 16 includes a number of limitations that are not shown or suggested by the prior art of record, taken either individually or in combination. For instance, Applicant’s review of the prior art of record did not identify any teaching directed to a thermal barrier comprising: (1) “a plurality of base materials positioned between the first barrier layer and the second barrier layer;” and (2) “a non-encapsulated phase change material dispersed within one or more of the base materials, wherein interior portions of the first barrier layer are bonded to interior portions of the second barrier layer in a sealing pattern to enclose the base materials within respective compartments.” While PAYNE makes reference to thermal barriers, this reference does not show or suggest a thermal barrier comprising “a plurality of base materials” and “a non-encapsulated phase change material dispersed within one or more of the base materials.” And, PAYNE fails to show or suggest such a thermal barrier wherein “interior

portions of the first barrier layer are bonded to interior portions of the second barrier layer in a sealing pattern to enclose the base materials within respective compartments.” The deficiencies of PAYNE are not remedied by the teachings of OGAWA and ADORJAN. For instance, while ADORJAN makes reference to a thermal insulating structure with alternating layers of reflective material and layers of foam, this reference does not show or suggest a thermal barrier comprising “a non-encapsulated phase change material dispersed within one or more of the base materials.” And, ADORJAN fails to show or suggest such a thermal barrier wherein “interior portions of the first barrier layer are bonded to interior portions of the second barrier layer in a sealing pattern to enclose the base materials within respective compartments.” For these reasons, the prior art of record can neither anticipate nor render obvious the invention defined by independent claim 16.

Claims 17-24 depend from independent claim 16 and are allowable for at least the reasons set forth above for independent claim 16.

New claim 50 depends from independent claim 16 and is allowable for at least the reasons set forth above for independent claim 16.

In conclusion, Applicant respectfully submits that the prior art of record fails to teach or suggest the structure or implementation of the invention recited in the claims of the subject application and, thus, that the prior art of record cannot, as a matter of law, anticipate the claimed invention under 35 U.S.C. §102(b) or render obvious the claimed invention under 35 U.S.C. §103(a). Applicant, therefore, respectfully requests withdrawal of the rejections under 35 U.S.C. §102(b) and 35 U.S.C. §103(a).

Summary

For the reasons set forth above, Applicant respectfully submits that the subject application is in a condition for allowance. An early notice of allowance is, therefore, earnestly requested.


If in the opinion of the Examiner a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned at (650) 843-5852.

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